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09/663,512	09/15/2000	Raanan Ben-Zur	21391-701	2795

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EXAMINER	
MILLS, DONALD L	
ART UNIT	**PAPER NUMBER**
2662	14

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/663,512	BEN-ZUR ET AL.	
	Examiner	Art Unit	
	Donald L Mills	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5-8,10-16,19-26,29-36 and 38-43* is/are rejected.

7)☒ Claim(s) *2-4,9,17,18,27,28 and 37* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 5-7, 10-16, 19, 20, 22-26, 29, 30, 32-36, 38, 39, and 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elliot et al. (US 6,587,470 B1), hereinafter referred to as Elliot, in view of Ikawa (US 6,614,753 B2).

Regarding claims 1, 26, and 36; Elliot discloses *generating at least one data frame of a second type from at least one data frame of a first type, wherein the at least one data frame of a second type comprises switching event information* (Referring to Figure 7, the SCL comprises SONET overhead bytes, comprising K1 and K2 automatic protection switch bytes, inherently from SONET signals. See column 11, lines 58-62.) And, *transferring and storing the at least one data frame of a second type among a plurality of network elements using a second network* (Referring to Figures 3 and 4, the SCLs connect with the TCC unit and its redundant card, which inherently stores signals for transmission. See column 11, lines 53-54 and column 12, lines 16-19.) Elliot does not disclose *performing at least one compare operation among prespecified data frames of a second type; generating at least one interrupt signal in response to at least one detected change resulting from the at least one compare operation; and controlling information routing in at least one network in response to the at least one interrupt signal.*

Ikawa teaches an APS processing unit **105** that checks whether or not the APS units **101-1** and **101-2** are in a status designated by the control signal, per the K bytes received from the SONET/SDH frames (See Figure 10, column 10, lines 30-32.) Ikawa further teaches an interrupt signal, inherently generated, in step **S7**, when mode mismatching is detected, and controlling information routing in step **S8**, when the lines of the own station are bridged (See Figure 14, column 15, lines 35-37.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the mode mismatching method of Ikawa in the system of Elliot. One of ordinary skill in the art would have been motivated to so in order for an APS unit to operate normally when the mode setting of another terminal is unknown (See column 6, lines 54-60.)

Regarding claims 5, 19, 29, and 38 as explained above/below in the rejection statement of claims 1, 16, 26, and 36; Elliot and Ikawa disclose all of the claim limitations of claims 1, 16, 26, and 36 (parent claims). Elliot does not disclose *navigating among a plurality of memory locations using a plurality of memory maps in response to the at least one interrupt signal; reading data from the plurality of memory locations relating to the switching event information; and evaluating the switching event information.*

Ikawa teaches an APS processing unit **105** that checks whether or not the APS units **101-1** and **101-2** are in a status designated by the control signal (See Figure 10, column 10, lines 30-32.) Ikawa further teaches determining if a mode mismatch has transpired (See Figure 14, column 15, lines 35-37.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the mode mismatching method of Ikawa in the system of Elliot. One of

ordinary skill in the art would have been motivated to so in order for an APS unit to operate normally when the mode setting of another terminal is unknown (See column 6, lines 54-60.)

Regarding claims 6, 30, and 39; the primary reference further teaches *coupling an output of each of the plurality of network elements to an input of the plurality of network elements* (Referring to Figure 1, SONET plane network electrical and optical interface subsystems **130** are connected to XC **120** and returned to the network through SONET plane network interface subsystem **130**. See column 5, lines 29-34.)

Regarding claim 7, the primary reference further teaches *wherein the at least one data frame of a first type comprises a synchronous optical network data frame* (Referring to Figure 1, standardized SONET telecommunication traffic enters the system. See column 5, lines 28-29.)

Regarding claim 10 as explained above in the rejection statement of claim 1, Elliot and Ikawa disclose all of the claim limitations of claim 1 (parent claim). Elliot does not disclose *wherein the second network comprises a 16-channel bus.*

Elliot teaches the SCL as subdivided into four channels (See column 12, lines 8-9.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the SCL of Elliot as a 16-channel system. One of ordinary skill in the art would have been motivated to so in order to realize greater throughput. In addition, in so doing unexpected results are not produced.

Regarding claims 11, 22, 32, and 41 as explained above/below in the rejection statement of claims 1, 16, 26, and 36; Elliot and Ikawa disclose all the of the claim limitations of claim 1, 16, 26, and 36 (parent claims). Elliot does not disclose *wherein the at least one detected change is an inequality among bits of the at least one data frame of a second type.*

Ikawa teaches a mismatching judgment circuit for judging the mismatching between stations based on K bytes (See column 9, lines 14-17.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement mismatching judgment circuit of Ikawa in the system of Elliot. One of ordinary skill in the art would have been motivated to so in order for an APS unit to operate normally when the mode setting of another terminal is unknown (See column 6, lines 54-60.)

Regarding claim 12, the primary reference further teaches *generating a plurality of control and clock signals* (Referring to Figure 7, the physical link consists of 19.44 MHz differential LVDS clock, a frame synchronization signal, an enable signal, a transmit signal, and a receive data signal. See column 12, lines 3-6.)

Regarding claims 13, 23, 33, and 42 as explained above in the rejection statement of claims 1, 16, 26, and 42; Elliot and Ikawa disclose all of the claim limitations of claims 1, 16, and 26 (parent claims). Elliot does not disclose *multiplexing the at least one data frame of a second type from a plurality of ports into a memory area of a dual port random access memory (Claims 13 and 33)/multiplexing the at least one backplane data frame from a plurality of ports into a memory area of a dual port random access memory (Claim 23).*

Elliot teaches SCLs connected with the TCC unit and its redundant card utilizing backplane **800**, which inherently stores signals for transmission (See column 8, lines 11-13 and column 11, lines 53-54 and column 12, lines 16-19.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the memory of Elliot as a dual port memory. One of ordinary skill in the art would have been motivated to so in order to allow simultaneous access to the data.

Regarding claims 14, 24, 34, and 43; the primary reference teaches *receiving the at least one data frame of a first type from a plurality of network ports distributed among a plurality of switch cards* (Referring to Figure 1, SONET traffic enters the SONET plane network electrical and optical interface subsystems **130** which are connected to XC **120**. See column 5, lines 28-31.)

Regarding claims 15, 25 and 35; the primary reference teaches *distributing processing of switching event information among the plurality of network elements* (Referring to Figure 12A, failure on a working card is accommodated by routing of traffic to an adjacent or protect card. See column 16, lines 26-28.)

Regarding claim 16, Elliot discloses *capturing at least one network data frame from at least one network* (Referring to Figure 1, SONET traffic enters the SONET plane network electrical and optical interface subsystems **130** which are connected to XC **120**. See column 5, lines 28-31.) And, *generating at least one backplane data frame from the at least one network data frame, wherein the at least one backplane data frame comprises switching event information* (Referring to Figure 4B and 7, on the backplane **800** the SCL comprises SONET overhead bytes, such as K1 and K2 automatic protection switch bytes. See column 8, lines 11-13 and column 11, lines 58-62.) And, *transferring and storing the at least one backplane data frame among the plurality of network elements using a backplane network* (Referring to Figures 3 and 4, the SCLs connect with the TCC unit and its redundant card, which inherently stores signals for transmission using backplane **800**. See column 11, lines 53-54; column 12, lines 16-19; and column 8, lines 11-13.) Elliot does not disclose *performing at least one compare operation among at least one transferred backplane data frame and at least one stored*

backplane data frame at prespecified intervals; and generating at least one interrupt signal in response to at least one detected change in switching event information resulting from the at least one compare operation.

Ikawa teaches an APS processing unit **105** that checks whether or not the APS units **101-1** and **101-2** are in a status designated by the control signal (See Figure 10, column 10, lines 30-32.) Ikawa further teaches an interrupt signal, inherently generated, in step **S7**, when mode mismatching is detected, and controlling information routing in step **S8**, when the lines of the own station are bridged (See Figure 14, column 15, lines 35-37.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the mode mismatching method of Ikawa in the system of Elliot. One of ordinary skill in the art would have been motivated to so in order for an APS unit to operate normally when the mode setting of another terminal is unknown (See column 6, lines 54-60.)

Regarding claim 20, the primary reference further teaches *coupling an output of each of the plurality of network elements to an input of the plurality of network elements using the backplane network* (Referring to Figure 1, SONET plane network electrical and optical interface subsystems **130** are connected to XC **120** and returned to the network through SONET plane network interface subsystem **130**. See column 5, lines 29-34,) *wherein the backplane network includes at least one 16-channel bus* (Referring to Figure 2, using a parallel data bus comprising 16 bits plus sync (17 signals). See column 8, lines 36-37.)

Allowable Subject Matter

3. Claims 2-4, 8, 9, 17, 18, 21, 27, 28, 31, 37, and 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

4. Applicant's arguments filed March 17, 2004 have been fully considered but they are not persuasive.

Rejection Under 35 USC § 103

On page 24 of the remarks, regarding claims 1, 16, 26, and 36, Applicant argues that Ikawa does not disclose *comparing data frames of a second type, generating an interrupt, and controlling information routing in a network in response to the interrupt signal.* Examiner respectfully disagrees. Ikawa teaches comparing K bytes from received SONET/SDH frames in an APS processing unit **105** that checks whether or not the APS units **101-1** and **101-2** are in a status designated by the control signal (See Figure 10, column 10, lines 30-32.) Ikawa further teaches generating an interrupt signal, step **S7**, when mode mismatching is detected. And, controlling information routing in step **S8**, when the lines of the own station are bridged in response to the mode mismatching detection signal (See Figure 14, column 15, lines 35-37.) Therefore, Ikawa teaches *comparing data frames of a second type, generating an interrupt, and controlling information routing in a network in response to the interrupt signal.*

Also, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L Mills whose telephone number is 703-305-7869. The examiner can normally be reached on 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Donald L Mills

May 5, 2004

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